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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/654,141	09/01/2000	Richard Marks	375.11.01	5784

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EXAMINER

EISEN, ALEXANDER

ART UNIT PAPER NUMBER

2674

DATE MAILED: 07/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/654,141

Applicant(s)

MARKS, RICHARD

Examiner

Alexander Eisen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6,7,9-12,14,16,17,22,24 and 25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12,14,16,17,22,24 and 25 is/are allowed.
- 6) ☒ Claim(s) 6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/18/05

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114.

Applicant's submission filed on 18 April 2005 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maruno et al., JP 09-185456 (reference provided with applicant IDS of 4/18/2005) in view of Freeman, and further in view of Wilke (references are of record).

With respect to claims 6 Maruno discloses an input device for providing a signal to effect one of translational, rotational movement, and both translational and rotational movements of an object on a graphical display comprising a device for capturing video images; an input image processor that translate captured video images of human arm into signals that are delivered to an output image processor, the input image processor programmed to isolate a human form from a background; determine a position and a movement of arms of the human form; generate an

output signal responsive to the position of human arms; and an output image processor (part of the computer system) that is programmed to effect one of the translational movement, rotational movement of an object on a graphical display in response to the signals received from the input image processor. Maruno further discloses that the input image processor programmed to isolate a human form from a background in a captured video image of the background without a human form using a subtraction of a frame that does not include the person from individual frames (see FIGS. 5, 12 and relevant description).

Freeman teaches a hand gesture recognition in a computer system to control the movement of an object on a screen including capturing images of a portion of an arm of human form and calculating a position and movement of that portion including calculating angles.

None of the above discloses determining a horizontal extent of a torso of the person so as to isolate arm portion of the person in frames of captured video sequence.

Wilke teaches a method for recognizing hand gestures including determination of an extent of a torso (human body 13 in FIGS. 1 and 3a,b) for isolation of arm portions of a person (paragraphs [0030]- [0066]).

It would have been obvious to one of ordinary skill in the art at the time when the invention was made to employ the technique taught by Wilke in the system of Maruno, as modified by Nguyen and Freeman, to isolate the arms of the person, because it is only the arms that are used in controlling the object on the screen while the rest of the person's body stays unmoved, thus avoiding every time unnecessary processing of the image of the whole body.

Allowable Subject Matter

4. Claims 12, 14, 16, 17, 22, 24 and 25 are allowed. The reasons for allowance of claims have been conveyed to the Applicant in the previous Office action.
5. Claims 7 and 9-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
6. The following is a statement of reasons for the indication of allowable subject matter: no prior art found by the examiner that suggests modification of or combination with the cited prior art so as to satisfy the requirements of the dependent claims above; none of the prior art, either singularly or in combination, teach or suggest a method for generating signals to effect one of the translational, rotational and both translational and rotational movements of an object on a graphical display using a human arm position data, as delineated by claim 6 and wherein the method comprises steps of counting a total number of nonzero pixels in the foreground image and ensuring that the total number falls within a predefined range between a minimum and maximum thresholds; or wherein the arm position data signal generated is selected from a group consisting of signals related to object airspeed acceleration, bank angle and pitch angle; or wherein the arm position data signal generated is determined with the inclusion of smoothing constants.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Eisen whose telephone number is (571) 272-7687. The examiner can normally be reached on M-F (9:00-5:00).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Alexander Eisen
Primary Examiner
Art Unit 2674

21 July 2005